Amendments to the Claims

Claims 1-14 (cancelled)

Claim 15 (currently amended): An anion-exchanger (1) comprising a plurality of anion-exchange ligands each of which is attached via a spacer to a hydrophilic base matrix, ~~characterized in that~~wherein

(a) the ligands plus their spacers comply with the formula:

$$\text{--SP---[Ar-R}_1\text{-N}^+\text{(R}_2\text{R}_3\text{R}_4\text{)]}$$

~~where the symbols have the same meaning as in any of claims 1-10, and~~

wherein

(i) $[\text{Ar-R}_1\text{-N}^+\text{(R}_2\text{R}_3\text{R}_4\text{)}]$ represents a ligand in which

a) Ar is an aromatic ring,

b) R_1 is $[(L)_nR'_1]_m$ wherein

- n and m are integers selected amongst zero or 1;
- L is an amino nitrogen, an ether oxygen or a thioether sulphur;
- R'_1 is a bivalent linker group selected among
  1) linear, branched or cyclic hydrocarbon groups;
  2) -C(=NH)-;

c) $R_{2\text{-}4}$ are selected among hydrogen and lower alkyls;

(ii) SP is a spacer providing a carbon, a nitrogen, a sulphur or an oxygen directly attached to $\text{Ar-R}_1\text{-N}^+\text{(R}_2\text{R}_3\text{R}_4\text{)}$;

(iii) --- represents that the spacer is replacing a hydrogen in (Ar-R_1-$N^+(R_2R_3R_4)$;

(iv) -- represents binding to the matrix; and

(b) the anion-exchanger (1) has a maximal breakthrough capacity in the pH-interval 2-13 for at least one reference proteins selected ~~amongst~~from the group consisting of ovalbumin, conalbumin, bovine serum albumin, β-lactglobulin, α-lactalbumin, lyzozyme, lgG, and soybean trypsin inhibitor (STI) which is ≥at least 200%~~, such as ≥ 300% or ≥ 500% or ≥ 1000%~~ of the maximal breakthrough capacity in the pH-interval 2-12 obtained for a Q-exchanger ($-CH_2CH(OH)CH_2N^+(CH_3)_3$) (anion-exchanger 2)~~, the support matrix, degree of substitution, counter-ion and running conditions being the same for anion-exchanger (1) and anion-exchanger (2)~~.

Claim 16 (currently amended): The anion-exchanger of claim 15, ~~characterized in that~~wherein the relative break-through capacity is measured under anion-exchanger condition.

Claim 17 (currently amended): A method for testing ~~(screening)~~ the appropriateness of one or more anion-exchangers for removing a substance from a liquid, said method comprising the steps:

(a) providing a library which ~~comprises~~includes

(i) one or more anion-exchangers to be tested (exchangers 1, 2, 3, 4 ..... n; wherein n = an integer > 0) each of which anion-exchangers differs with respect to kind of ligand (ligands 1, 2, 3, 4, ...n), and

(ii) a reference anion-exchanger having a reference ligand, the support matrix etc being essentially the same in the exchangers 1, 2, 3, 4 .... n and in the reference anion-exchanger;

(b) determining the maximal breakthrough capacity in the pH-interval 2-12 of exchanger 1 for the substance at a predetermined condition;

(c) determining the maximal breakthrough capacity in the pH-interval 2-12 of the reference anion-exchanger for the substance at the same condition as in step (b);

(d) ~~concluding with the aid of the relation between~~determining, by comparing, the maximal breakthrough capacities obtained in steps (b) and (c), if anion-exchanger 1 is appropriate to use for removing the substance; and

(e) repeating~~, if necessary,~~ steps (b)-(~~e~~d) for at least one of the exchangers 2, 3, 4 ... n.

Claim 18 (currently amended): The method of claim 17, ~~characterized in that~~wherein the steps (b) and (c) are carried out under anion-exchanger conditions.

Claim 19 (currently amended): A method for removing salt from a negatively charged substance~~, preferably amphoteric,~~ when present in a solution (liquid (I))~~, which method comprises~~comprising the steps of:

(i) contacting liquid (I) liquid with an anion-exchanger (1) that comprises a base matrix carrying a plurality of ligands in which there is a positively charged nitrogen under conditions permitting binding between the ~~anion-exchangerr~~anion-exchanger and the substance,

(ii) desorbing said substance from said anion-exchanger by the use of a liquid (liquid (II))~~.~~ at a desired pH

~~characterized in:~~wherein

(A) ~~selecting~~said anion-exchanger (1) is~~among anion-exchangers that are~~

(a) capable of binding the substance of interest in an aqueous reference liquid at an ionic strength corresponding to 0.25 M NaCl; and

(b) ~~permitting~~permits a maximal breakthrough capacity in the pH interval 2-12 for the substance ≥ 200 %, such as ≥ 300% or ≥ 500% or ≥ 1000 %, of the breakthrough capacity of the substance for Q-Sepharose Fast Flow ~~(anion-exchanger 2, Amersham Pharmacia Biotech, Uppsala, Sweden)~~,

said anion-exchangers having essentially the same ligand density and the breakthrough capacities being determined under the same conditions; and

(B) ~~adjusting~~ the pH of liquid (II) in step (ii) is adjusted by the use of an acid-base pair to a value that means a lower net positive charge on-the anion-exchanger and/or a lower net negative or positive charge on the substance thereby enabling elution at a lowered ionic strength compared to liquid (I).

Claim 20 (currently amended): The method of claim 19, ~~characterized in that~~wherein at least one member of the acid-base pair buffer has a vapour pressure that is higher than the substance.

Claim 21 (currently amended): The method of ~~any of claims 19-20, characterized in that~~claim 19, wherein the substance in the liquid of low salt content obtained in step (ii) is ionized in a mass spectrometer.